

# Operating Instructions

## DOUBLE WALL LABORATORY OVENS

Models: 88-0200/01 (L-3C-4)  
88-0200/02 (L-3C)  
88-0210/01 (L-5C-4)  
88-0210/02 (L-5C)  
88-0220/01 (L-8C-4)  
88-0220/02 (L-8C)

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| <p><b>ELE International, Inc.</b><br/>PO Box 608<br/>Loveland, CO 80539<br/>USA<br/>Phone: (970) 663-9780<br/>Fax: (970) 663-9781<br/>E-Mail: soiltest@eleusa.com<br/>Website: www.eleusa.com</p> | <p><b>Distributor:</b></p> | <p><b>ELE International, Ltd.</b><br/>Chartmoor Road Chartwell Business Park<br/>Leighton Buzzard, Bedfordshire<br/>LU7 4WG England<br/>Phone: + (0) 1525 249200<br/>Fax: + (0) 1525 249249<br/>E-Mail: ele@eleint.co.uk<br/>Website: www.eleint.co.uk</p> |
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**DOUBLE WALL LABORATORY OVENS  
MODELS 88-0200/ (L-3C), 88-0200/ (L-5C),  
88-0220/01 (L-8C) SERIES**

**I. GENERAL INFORMATION**

The **Double Wall Laboratory Ovens** are designed for general laboratory tasks including drying, baking, annealing, conditioning, sterilizing, evaporating, dehydrating and other general laboratory work. Available in a variety of sizes, this series of ovens is fully-equipped with mercury thermometer and adjustable shelves. The double wall welded steel construction, baked enamel finish exterior, and corrosion resistant interior make this a sturdy, all-purpose laboratory oven.

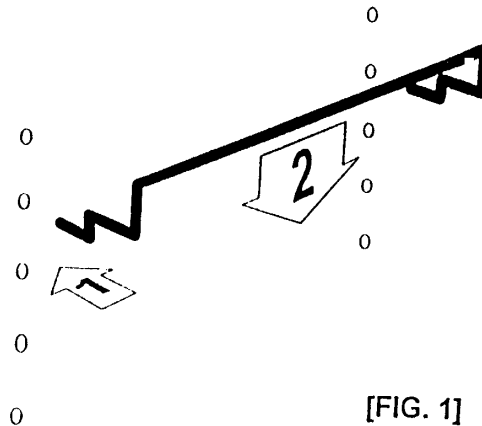
The ovens contain the following features:

- \* Sturdy, double wall welded steel construction
- \* Two nickel plated shelves adjustable at 1" (25.4 mm) increments
- \* Baked enamel finish exterior
- \* Corrosion resistant interior

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**II. SET UP**

- A. After unpacking the oven from its shipping carton, verify receipt of correct quantities of each component and carefully check for damage. If there are any problems, please refer to the enclosed **Damaged/Missing Item Report**.
- B. Do not place the oven on a combustible surface.
- C. Install adjustable shelf by placing the ends of the wire shelf bracket into the corresponding holes located on the inner sides of the incubator at the desired height. Push the ends of the brackets into the holes until the first bend in the brackets are against the wall, then rotate the bracket down. Place the shelf on the brackets. See Figure 1 on following page.



[FIG. 1]

- D. Remove the glass thermometer from its container and place it in the rubber grommet. Insert the grommet in one of the ports on top of the oven and adjust the thermometer so that it extends at least 1 inch (25.4 mm) into the oven chamber.

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- E. Check the oven nameplate to ensure that the oven electrical characteristics agree with your power supply. Plug into a 115/230 volt receptacle, depending upon the voltage of the oven you have.

**III. CAUTION**

- A. Do not use with flammable solvents, vapors, or gasses.
- B. Exterior oven surfaces may become hot when in use.
- C. Do not use extension cords with the oven.
- D. Do leave oven unattended during operation.
- E. Do not put drip tray or foil over fixed shelf in bottom of oven. Air must circulate freely around heating elements for proper operation.
- F. Do not operate oven without (4) rubber feet. Air must circulate freely underneath the cabinet for proper cooling of electrical components.

**IV. LOADING AND OPERATION**

- A. Model 88-0200/ (L-3C)
  - 1. Turn the thermostat control knob clockwise to around the number "8". The light will come on, indicating heater action.
  - 2. Check the reading of the thermometer until it reaches the desired temperature.
  - 3. Rotate the control knob very slowly counter clockwise until the light goes out. The thermostat will then cycle automatically with the light indicating heater action.
  - 4. Turn oven off with the ON/OFF power toggle switch, saving the temperature setting for the next use.

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- B. Models 88-0210/ (L-5C), 88-0220/01 (L-8C)
1. Switch on the ON/OFF power switch.
  2. Turn the thermostat knob to the desired temperature indicated on the knob. A slight adjustment may be necessary but this can be determined by the thermometer reading.
- C. Due to latent heat of the element(s) on initial warm-up, it is best to anticipate temperature rise at this point. Until the user becomes familiar with the equipment through use, one should set the thermostat so that it will cycle 10 to 20 degrees ahead of the desired operating temperature to dissipate the excessive heat of the element(s). The higher the desired temperature, the less anticipation is needed. The thermostat should be allowed to cycle at temperature a few times before using the oven. This will allow the interior metal of the oven to reach temperature and stabilize at operating temperature.
- D. Load the oven so that air circulation within the oven is not impaired. General guidelines include:
- Stagger articles on the shelves.
  - Do not overload. Overloading will show by non-uniform processing.
  - Leave a space between articles being processed.
  - Hang flat sheet from top shelf.
  - If sheets are laid flat, maintain gaps between each sheet for air circulation.
  - For best processing performance for a single item, adjust one shelf so that the article is centered in the oven.

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**V. SPECIFICATIONS**

**Inside Dimensions:**

88-0200/02 (L-3C), 88-0200/01 (L-3C-4): 12"w x 10"d x 10"h (305 x 254 x 254 mm)  
 88-0210/02 (L-5C), 88-0210/01 (L-5C-4): 18"w x 12"d x 16"h (457 x 305 x 406 mm)  
 88-0220/01 (L-8C), 88-0220/01 (L-8C-4): 18"w x 14"d x 21"h (457 x 356 x 533 mm)

**Cubic Feet Capacity:**

88-0200/02 (L-3C), 88-0200/01 (L-3C-4): 0.7 (19.8 liters)  
 88-0210/02 (L-5C), 88-0210/01 (L-5C-4): 2.0 (56.6 liters)  
 88-0220/01 (L-8C), 88-0220/01 (L-8C-4): 3.0 (85 liters)

**Outside Dimensions:**

88-0200/02 (L-3C), 88-0200/01 (L-3C-4): 14"w x 12"d x 17"h (356 x 305 x 432 mm)  
 88-0210/02 (L-5C), 88-0210/01 (L-5C-4): 20"w x 14"d x 25"h (508 x 356 x 635 mm)  
 88-0220/01 (L-8C), 88-0220/01 (L-8C-4): 20"w x 16"d x 30"h (508 x 406 x 762 mm)

**Type of Thermostat:**

88-0200/02 (L-3C), 88-0200/01 (L-3C-4): Bi-Metal  
 88-0220/01 (L-8C-4): Hydraulic

**Wattage/Amps:**

88-0200/02 (L-3C): 600/5.22  
 88-0210/02 (L-5C): 1200/10.43  
 88-0220/01 (L-8C): 1600/13.91  
 88-0200/01 (L-3C-4): 600/2.6  
 88-0210/01 (L-5C-4): 1200/5.22  
 88-0220/01 (L-8C-4): 1600/6.95

**Maximum Temperature:**

225°C (437°F)

**Shipping Weight:**

88-0200/02 (L-3C), 88-0200/01 (L-3C-4): 41 lbs.(18.6 kg)  
 88-0210/02 (L-5C), 88-0210/01 (L-5C-4): 70 lbs.(31.8 kg)  
 88-0220/01 (L-8C), 88-0220/01 (L-8C-4): 90 lbs.(40.8 kg)

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**VI. MODELS**

|                      |                                 |
|----------------------|---------------------------------|
| 88-0200/02 (L-3C):   | 115vAC, 60 Hz, 5.22 amps        |
| 88-0200/01 (L-3C-4): | 230vAC, 50/60 Hz, 1ø, 2.6 amps  |
| 88-0210/02 (L-5C):   | 115vAC, 60 Hz, 10.43 amps       |
| 88-0210/01 (L-5C-4): | 230vAC, 50/60 Hz, 1ø, 5.22 amps |
| 88-0220/01 (L-8C):   | 115vAC, 60 Hz, 13.91 amps       |
| 88-0220/01 (L-8C-4): | 230vAC, 50/60 Hz, 1ø, 6.95 amps |

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**PARTS LIST**

| <b>Description</b>   | <b>Part No.</b>        |
|--|------------------------|
| 6' cord & plug 115 volt (models 88-0210/02 (L-5C),<br>88-0220/02 (L-8C)                                  | 101-1403               |
| 6' cord & plug 230 volt (models 88-0210/01 (L-5C-4),<br>6' cord & plug 115 volt (model 88-0200/02 (L-3C) | 101-1403-1<br>101-1603 |
| 6' cord & plug 230 volt (model 88-0200/01 (L-3C-4)   | 101-1603-1             |
| Indicator Light  | 101-2202               |
| Friction Catch (Set)   | 101-2221               |
| Thermostat: Harper-Wyman   | 101-2222               |
| Rubber feet (4) (model 88-0220/ (L-8C)   | 101-1209               |
| Rubber feet (4) (models 88-0200/ (L-3C), 88-0210/ (L-5C)   | 201-1209               |
| <b>Heating Elements:</b>   |                        |
| 600 Watt, 115 volt 88-0200/02 (L-3C) (1);<br>88-0210/02 (L-5C) (2)*                                      | 201-1212               |
| 600 Watt, 230 volt 88-0200/01 (L-3C-4) (1);<br>88-0210/01 (L-5C-4) (2)*                                  | 201-1212-1             |
| 800 Watt, 115 volt (1); 88-0220/02 (L-8C) (2)*   | 201-1213               |
| 800 Watt, 230 volt (1); 88-0220/01 (L-8C-4) (2)*   | 201-1213-1             |
| Handle-lab oven door   | 201-2206               |
| Rocker switch  | 201-2213               |
| Thermostat knob & dial-bimet   | 201-2215               |
| Thermostat-bimet   | 201-2217               |
| Mercury thermometer  | 201-2219               |
| Dial thermometer   | 201-2220               |
| Thermometer knob & dial-Harper-Wyman<br>(Models 88-0210/02 (L-5C), 88-0200 (L-8C)                        | 201-2225               |

*\*Quantity of heating elements needed for each model number.*

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